RADIO-PERCEPTION

THE JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

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CONTENTS

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BRITISH SOCIETY OF DOWSERS

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OBJECTS OF THE SOCIETY

(*a*) To encourage the study of all matters connected with the perception of radiation by the human organism with or without an instrument.

(*b*) To spread information amongst members, by means of a journal, lectures and other means, about the use of dowsing for geophysical, medical and agricultural and other purposes and for tracing objects animate or inanimate.

(*c*) To keep a register of dowsers for water, minerals, oil, and for other purposes.

RULES OF THE SOCIETY

I.—Membership.

The Society is open to all persons interested in radiation-perception.

The Council has power to appoint honorary members.

II.—Entrance Fee and Subscription.

(*a*) The entrance fee for permanent residents in Great Britain is 10/6, and the annual subscription is 10/-.

(*b*) The entrance fee for permanent residents overseas is 10/6, and the annual subscription 5/-.

The subscriptions under (*a*) and (*b*) may be compounded for by the payment of a Life Member's subscription of six guineas or of three guineas respectively.

The Council is empowered to decide any special cases in connection with the payment of subscriptions.

III.—Management.

The Society will be managed by a Council consisting of a President, who will act as Chairman, and five members, one of whom will act as Treasurer and Secretary.

The President and members will be replaced as necessary by the Council, appointments being confirmed at a General Meeting.

All questions regarding the publication of the journal, lectures, meetings, allocations of funds to promote the objects and interests of the Society, will be settled by the Council.

Decisions of the Council will be arrived at by correspondence if necessary, the facts being recorded in the Minute Book.

Decisions will be decided by a majority vote, the Chairman having a casting vote.

The Council has power to co-opt other members for special purposes.

IV.— Accounts.

The financial year will be from July 1st to June 30th.

Audited accounts will be published annually within two months after the end of the financial year.

V.—General Meeting.

A General Meeting will be held annually, and other meetings when considered necessary by the Council.

JOURNAL OF THE
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Vol. VI. No. 49 September, 1945

NOTICES

Members are reminded that the Annual Subscriptions of 10/- for those resident in Great Britain and of 5/- for those resident overseas were due on July 1st.

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The Editor would be obliged if anyone who has a copy of *The Physics of the Divining Rod, The Modern Dowser* or *Water Diviners and their Methods* to dispose of would communicate with him.

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A member wishes to obtain Vol. I of the B.S.D. Journal or any early numbers. Would anyone who has copies to dispose of kindly inform the Editor.

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A Title Page and Contents for Vol. V have been printed and will be supplied by the Editor on application.

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Radiesthesia II and Dr. Richards's *Medical Dowsing* can be obtained from Dr. W. Guyon Richards, 9 Fordington Road, Highgate, N.6, at 3/6 and 1/1, post free, respectively, or 4/6 if ordered together.

* * * * *

Copies of *Dowsing*, by Captain W. H. Trinder, can be obtained from Colonel A. H. Bell, York House, Portugal Street, London, W.C.2, at 6/4 for members and 8/4 for non-members.

* * * * *

The price of *Journals* to non-members is 1/6.

The price of new *Journals* to members, in excess of the free number, and of old *Journals* is 1/- and 9d. respectively.

Six free copies of the *Journal* will be given on request to writers of articles in it, in addition to the usual copy.

The following Divining Rods can be obtained from Mr. Guy Underwood, Belcombe House, Bradford-on-Avon, Wilts :—

OASIS Pocket Divining Rod (in case), 10/-.
Ditto, larger " Supersensitive " Type, 21/-.
ROTOGAUGE Estimating Rod, 12/6.

also

Reprints of four articles and a lecture on Dowsing published in the B.S.D. Journal. Price 6/- the set.

All post free, cash with order, and subject to a discount of 20 per cent (4/- in the pound) to Members of the B.S.D.

* * * * *

Whalebone strips cut to the following dimensions can be obtained from Messrs. Devine and Co. Ltd., St. Stephen's Road, Old Ford, London, E.3, at the price of 5/- per rod (2 strips) :—

Flat : 12in. long x 7mm. wide x 2mm. or 3mm. thick.
Circular : 12in. long x 3mm. or 4mm. in diameter.
Square : 12in. long x 3mm. or 4mm. square section.

Rods made of strips of these sizes have been tested by a number of dowsers, and are recommended by the B.S.D. Investigation Committee.

Spherical whale-ivory pendulums can also be supplied at 8/- each. Prices for rods and pendulums prepared to specific dimensions are given on request.

All prices are post free in U.K.

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The Society's badges can be obtained from the Honorary Secretary. Owing to the increased cost of postage the price is now 1/3 post free.

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Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

ANNUAL PROGRESS REPORT

BIOPHYSICAL LABORATORY,
BOURTON-ON-THE-HILL,
MORETON-IN-MARSH, GLOS.

RESEARCH FUND

Donations, April 5th, 1944-45.	£	s.	d.
Mrs. Bisley (per Colonel Bell)		5	0
W. W. Hawker, Esq.	10	0	0
Mrs. C. Ward		5	0
Dr. D. Russell, LL.D., F.L.S.	25	0	0

	£	s.	d.
Mrs. B. Cregan	5	5	0
D. O. King, Esq.	5	0	0
L. E. Eeman, Esq.	10	0	0
Colonel and Mrs. K. W. Merrylees	20	0	0
M. St. J. Kelly, Esq.	5	0	0
Mr. Mallison	5	0	0
Mr. Hawtin	5	0	0
Colonel A. H. Bell	10	0	0
B. E. Yeoward, Esq.	25	0	0
H. Prevost Battersby, Esq.	5	5	0
O. F. Parker, Esq.	3	3	0
Mrs. G. Barraclough	5	0	0
Dr. T. T. B. Watson, M.D.	5	5	0
	£144	8	0

Expenditure for the year 1944-45.

Total running cost of Laboratory, including stationery, postage, books, other essential materials and certain recording instruments (*e.g.*, electric photometer, voltmeter, compass, altimeter and theodolite—all second-hand), visitors for discussion and collaboration, travelling expenses, &c., rates, fuel, light, insurance, and interest on residue of Bank Loan	£319	11	0

Professional Work Undertaken

The debit balance was met out of the writer's professional fees for research and survey work, as in previous years; and the general position has further improved, thanks to increased calls by wars industries, landowners, War Agricultural Committees and Rural Councils. The Bank overdraft (see previous annual reports) now stands at £1,283 odd.

Laboratory work in 1944 was, necessarily, restricted by the calls on the writer's time for essential field survey work, reports, and correspondence with B.S.D. members and other interested parties. But a large body of valuable field data on underground streams and water tables was obtained from the field work; including complete check values from a considerable number of bore holes put down by clients at selected sites.

Full records are available of all such surveys and borings, of which only one has, so far, been a partial failure (yield below the estimated value, but depths of strata and quality of water correct); and that was in the Lower Lias clay, which is always difficult from a hydrological standpoint. The yields of the others

have been from 100 to 6,000 gallons per hour, according to locality, requirements, and area of ground available for surveying. These records have been analysed and discussed in the light of local geology in each instance, and the results of this work will be incorporated in a book on water-finding, that the writer hopes to publish after the war. The field work has also been carefully co-ordinated with special experiments on artificial and measurable flows and the use and development of suitable automatic instruments on behalf of the B.S.D. Some of these results have been broadly reported to Colonel Bell, Mr. T. B. Franklin and Captain W. H. Trinder from time to time. And mutual discussion has taken place, both by post and verbally.

The outcome of this mixture of commercial and experimental work has been, it is believed, a great clarification of the entire problem of successful field dowsing, including accurate vertical location, depth and yield estimates, specific diagnosis, &c., with direct reference to purely physical and geological facts. And some promising tests have also been made on the use of *map dowsing* and *radio survey by car*, respectively, where extensive areas have had to be roughly surveyed in a preliminary sense. A paper will be submitted to the Editor of the *Journal* on the latter subjects later this year.

In the laboratory there have been several electro-medical enquiries, with laboratory tests of the *Drown method of diagnosis and treatment, testing new subjects for radiesthetic sensitivity*, and *the physiological use of the rotating radiometer*, recently revived by Lord Dowding (who addressed the Society on the subject), as a detector of human bodily radiations and polarities. These tests have been extremely interesting and promising. The co-operation of Lord Dowding, Mr. L. E. Eeman and an eminent electrical and radio engineer (whose name has to be omitted in war time) who has confirmed several of the principal effects of this instrument, and who agrees with me as to the initial interpretation of the phenomenon.

Note on Radio-Electrometer

This form of radiometer responds very demonstrably to the types of electromagnetic radiation fields involved in dowsing and radiesthesia in general, including the variations of field strength in time and space, in terms of amount of deflection or rate of rotation; and demonstrates the relation of the radiation to weather conditions, its rotating polarised nature, what we have called polar reversals of the field, and other important features. Such an instrument is, therefore, invaluable in field and laboratory, when suitably constructed and handled. A preliminary report and brief discussion appears elsewhere in this *Journal*.

The new radiometer should possess four main applications :—

1. General laboratory use, for examination of electromagnetic (dowsing) fields around selected objects of moderate size and close proximity; mass and distance being vital factors.
2. Biological and electromedical enquiries as to human bodily polarities and energy outputs—which appear to be distinct from either thermal effects or the behaviour of the body as a re-radiator of some more generalised cosmic or telluric radiation.
3. As an aid to field survey work for underground streams, at least, granted suitable weather and open ground free from trees, buildings, metal work, pipes, cables, &c., all of which cause appreciable disturbances of the normal field, as was also observed by other methods of detection.
4. As a new kind of weather gauge, forecasting approaching storms and passage of electrically charged clouds (which it appears to do admirably), and as an indicator of polarity and intensity of dowsing radiation at any given time or place.

Lord Dowding is, therefore, to be congratulated on calling public attention once more to this important phenomenon; also Colonel Bell for inviting him to address the Society on the subject, despite Professor A. M. Low's critical comments in the Sunday press. Indeed, the objections of Professor Low and other physicists have, I am glad to say, been shown by our joint experiments to be unfounded, so that Lord Dowding's main contentions seem to be fully vindicated.

In conclusion, the writer wishes to thank most sincerely all those who have generously contributed to the Research Fund, or who have assisted the work by word and deed in a variety of ways; among them Captain W. H. Trinder, Colonel A. H. Bell, T. B. Franklin, L. E. Eeman and other members of the Society, as well as various doctors, engineers and outside parties who have expressed interest in the work and contributed towards it.

The past year has, it is believed, been one of steady progress in several directions; and one now only awaits an opportunity to publish the mass of data accumulated since 1939. Results should, I think, be all the more secure for this long deliberation. The triple burden of field, research and secretarial work has, however, become extremely heavy, and the lack of a laboratory assistant and typist has been felt acutely in recent months. For, under present conditions, time cannot always be found to write up results or to construct instruments in the way that is urgently needed.

J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.,
on behalf of the B.S.D. Investigation Committee.

PART ONE

NOTE OF A LECTURE BY MAJOR C. A. POGSON, M.C., ON FIELD SURVEYS

delivered to the Society on 23rd May, 1945

The lecturer opened by saying that when discussing dowsing with academically trained persons who are sceptics, it is advisable to confine the discussion to water divining " on the ground," because this branch of dowsing is most known, provides the greatest number of proved successes and can reasonably be attributed to a physical basis. It was his experience that during such discussions it was often asked why, if water divining is a genuine phenomenon with a physiological basis, and therefore recognisable as a science, a method of procedure with precise formulæ, which all dowsers could follow, cannot be laid down, but water diviners appear to follow different methods and employ a variety of appliances, while the majority do not even appear to adopt any systematic mode of prospecting.

While it cannot be denied that there is a variance in modes of execution, it can be pointed out that these individual methods have been evolved from personal experiences as a means to an end. When examined, they are found to bear features in common, but unfortunately these are not apparent to the uninitiated, who, æs a result, are unfavourably impressed by this seeming lack of uniformity. It is difficult to see any immediate remedy for this, as a stardardised procedure would never be adopted by the " old timer." On the other hand, it should be possible to lay down fixed and definite principles for initiates. In prospection, however, a systematic and regular method should, and can, be adopted by all.

(*a*) To this end all dowsers should acquire a knowledge of the aqueous characteristics of all geological formations, so that they may know what kind of supply is likely to be found in any particular stratum.

(*b*) Dowsers should first ascertain the exact wishes of their client ; whether he is prepared to bore, and if so to what depth, or whether he can only sink a well ; in particular, the boundaries of the area in which the supply is required—it is waste of time searching for and predicting supplies at some spot where from financial or other reasons it is of no use to the client.

(*c*) Having learnt his client's wishes, the dowser should then carry out a visual examination of the area indicated to determine the best means of carrying out the dowsing survey, bearing in mind that the first step is to obtain a general picture of the water situation in the area under investigation and then examine this in detail.

(*d*) A definite line of action calculated to overcome difficulties ;

for instance, in small areas it may be that a stream cuts a corner near enclosing walls; streams may cross or join—this is not easily detected by a dowser who comes on such a spot suddenly, and obviously they are more easily examined as separate flows. Small areas should, therfore, if possible, be examined first from outside, to gain a general impression and to discover if streams are flowing across them. This plan overcomes the disadvantage of encountering surface obstacles in a small area. In confined spaces it is difficult or impossible to find the reaction bands.

(*e*) In the case of large areas a system of division into squares is advisable when it is only necessary to examine three sides, and traverses should be planned so as to eliminate unnecessary walking. If there is more than one potential supply the client's wishes regarding position should be remembered, and engineering considerations, such as lift and proximity to power, space available for well or bore, taken into account.

(*f*) In general, the dowser should not hesitate to ask for information regarding the water situation in the neighbourhood. Having decided on his plan of campaign, he should stick to it. He should start with a preliminary survey to obtain the general picture and then carry out a detailed survey of places where indications of water were obtained. After making his detailed survey he should make a further examination to compare the best sites. To discount weather conditions and the personal factor, he should, if possible, make a check on a subsequent day. He should, above all, be businesslike and avoid aimless walking. The lecturer has no faith in the idea of intuitive attraction to the best spot at once; no corner should be left unexamined.

The lecturer than gave examples of types of supplies in various formations in England.

Points such as the following have been raised by technicians:

In a number of examples where dowsing successes are claimed, in particular in well-known water-bearing formations such as sandstone, throughout which conditions should be similar, equal success could have been obtained by geological methods. This may sometimes be true, but on the other hand, the water diviner has often been called in as a last resort. Better yields can often be obtained by dowsing even in saturated beds. In such cases the line of flow should be pointed out and not just one particular spot, although it can be suggested that, owing to texture conditions, best results will probably be obtained at some particular point on the line of flow.

Again, it is asked why failures ever occur, if dowsing has a physical basis and is carried out according to a cut-and-dried rule. The answer is that the personal factor is bound to intrude in the shape of health, human error, jumping to conclusions, and so on. The best water diviners sometimes make mistakes.

Sceptics urge that in view of the widespread existence of water,

the best test of dowsing powers would be the location of a spot where water does not exist, whilst the opposite would be the case with such rare commodities as gold, oil, &c. The difficulty of providing such proof is financial.

The lecturer ended with some remarks on the advantages of discussion and co-operation between dowsers, and the value of a second or third opinion in locating sites for water. The good faith of water diviners may be accepted by the fraternity, but there are still many sceptics, and it cannot be over stressed that discussions with such should be limited to the more familiar theme of water divining, and discussion regarding claims to other powers which might appear fantastic, rigidly avoided.

THE SEXING OF EGGS BY RADIO PERCEPTION

By DOROTHY BARTLAM

It is but little more than seven years since I first started serious experiments in egg-sexing by radio-perception. Actually, my first experience was at the age of ten or thereabouts, when my father bought for half-a-crown a gaudy bauble on a piece of string, with which I proceeded to sex all and sundry, from the cat's latest kittens to the pigeons' eggs in the loft! Like all children, I employed this new toy with great gusto, and—so far as I can remember—considerable success.

The remembrance of this childish enthusiasm returned to me one morning when I met a neighbouring farmer by chance on the way home from market. We started discussing farming in general, and poultry in particular. I had recently bought some turkey eggs from a well-known breeder, and was telling my neighbour of the extremely poor results—over 50 per cent. being infertile—when he laughed and said: "Ah, you should keep your own breeding stock, and do what my wife does." I enquired what that might be, whereupon he continued: "She tests them for fertility before she puts them down. It is done this way. She takes a ring, her wedding ring is the best, and ties it on a loop of cotton, which she then holds over the egg. If the ring moves up and down or round and round, then the egg is fertile. If the ring remains stationary, she knows it will never hatch a chick." I asked him if she ever had a failure, and he replied, "Not very often!"

From then on I started experimenting in earnest, for I considered that if this principle could be applied to turkey eggs, why not to duck, goose and hen eggs?

I had for several years used an ordinary hazel rod for dowsing for water, and had also found various metals, such as silver, gold,

brass, &c., and inanimate objects such as lost keys and the like. This time I discarded the forked stick, and made myself a bobbin or pendulum. I used various home-made contrivances, such as brass rings on pieces of fine string; brass bobbins on thin brass chain; a gold watch on a gold chain. Finally, I came to a small lead weight, suspended on a piece of string. With this instrument I had varying success, but the best I could achieve was only about 70 to 80 per cent. I felt that this was not good enough. Something was definitely wrong somewhere. Either I was at fault, or the medium was incorrect, for I felt that if one could sex *one* egg correctly one should be able to sex *every* egg correctly; otherwise the whole business was pure foolishness; a form of self-delusion.

However, about this time—it was three years ago—I purchased a very fine-looking Rhode cockerel from a friend of mine. From the breeding point it was an untried youngster. Eventually I mated him with half-a-dozen of my best hens, birds which were proved for fertility and stamina. In due course I tested the first batch of eggs, about fifty. I sat down at the table, with the eggs in front of me, and selected one. No reaction. The pendulum remained perfectly still. I tried another egg, and another, until only a score or so of eggs remained to be tried. Still no reaction from the pendulum. I began to feel exasperated. Here I must explain that I always placed the eggs on a wooden table, and usually it is immaterial to me whether I touch the egg myself, or whether an assistant places the egg under the pendulum. This time, thinking that I must be at fault, I picked up a previously tested egg, and held it resting on the palm of my hand. Immediately the bobbin started to rotate in clockwise motion. I placed the egg aside, transferred another in front of me, and placed the tips of my fingers upon it. Immediately the bobbin swung north and south with vigour. Here was a puzzle. Sex the eggs I could not, for every one gave a different reaction, according to whether I held it in my hand, or rested my fingers upon it on the table. Now I must state that at that time I knew nothing of the positive and negative reaction which could be obtained by the operator touching either the top or the bottom of the object dowsed. In fact, I only learned about this particular phenomenon during a discussion with Mrs. Barraclough a few weeks ago; for it must be realised that my experiments at that time were being conducted on a purely amateur basis, for beyond dowsing for water I had seen no practical demonstrations, not even for metals, &c., and, in fact, was quite ignorant (to my everlasting sorrow) of such a Society as the British Dowsers!

Now thoroughly bewildered by this apparent *impasse*, I put all the eggs into the incubator to await results. At the end of the week I tested them by the strong-light method, to find that

every one was infertile! To prove the point, I transferred this cockerel to another batch of tried hens, with exactly the same results.

About this time of trial and error, another accident occurred. Through, as I eventually discovered, a slip-up in my Breeding Record book, I had included a two-year-old bird in the mating up of a pen, the cockerel of which was a full brother through a long line of close in-breeding. I found these eggs were usually hard to sex. The motion of the pendulum was most indeterminate.

So the eggs from this particuar hen were marked and set separately and notes were made of the resultant progeny. As I expected, having studied Mendelism, they were non-viable. In every case, if the chick managed to get out of the shell, it died before it was three or four weeks old!

This set me furiously to think. I had always prided myself on the hatchability and liveability of my eggs and chicks, due of course to keeping a strict account of pedigree and performance. I therefore decided that not only were there *three* groups in egg testing, *i.e.*, the male, the female, and the infertile, but a *fourth* group: the weak germ.

About this time I made another discovery. I had mislaid my lead and string pendulum, and on the spur of the moment I tried a silver chain, with a small silver medallion attached, which I always wear around my neck. This seemed to give excellent results, the reaction being much quicker than in the case of the lead bobbin. I thought of my neighbour, the farmer whose wife had always got the best results when using her wedding ring. It occurred to me that anything particularly *personal*—something which is always worn night and day—would probably be more closely attuned to the operator, possibly by virtue of the fact that it had in some way "acquired" a closer link with that individual's particular vibrations.

Following this line of thought for the next two years, I was delighted to find that last year I obtained a consistent 100 per cent. success. I sexed goose, turkey and hen eggs, but not duck eggs; owing to the stringency of rationing during the war, I had had to give up the ducks.

To record what had happened and to prove my theories, last year I sexed nothing but pullets in several batches of eggs, choosing only those with the strongest reactions to the pendulum. I was delighted to see that, at six weeks old, there was not a single cockerel among them. Every chick lived, growing into a fine, strong pullet, and in just over six months all the birds were laying well.

Remembering the experience of the brother-and-sister mating, I mated a particularly fine Rhode cockerel to a full two-year-old sister, which had been progeny tested as a pullet the previous

year, and whose chicks had shown great stamina. On my first test I took ten eggs: the reaction to the pendulum was weak, and the eggs extremely difficult to sex. However, I eventually resolved it down to six cockerels and four pullets, one of the pullet germs being extremely weak. The result was as I expected. The weak-germ pullet-egg proved dead in shell when almost fully developed, the remainder proved to be six cockerels and three pullets. They grew very slowly, and at four weeks the first pullet died; thereafter up to six weeks one after another died, until at two-and-a-half months old, only one pullet remained, when this, too, unaccountably died. There was no disease of any kind; it was simply sheer *inability to live.* These chicks were in fact reared with sexed-egg pullets of exactly the same age under exactly the same conditions, and *not a single one of the sexed-egg pullets died!*

The above is a very short and, I fear, somewhat sketchy review of my experiments. But I am very enthusiastic about the future of egg-sexing, when it is more properly and generally understood. I should like to test out my theories on a much larger scale, through some independent source, and would welcome the opportunity to do so. This new science in my opinion is of the greatest importance to all poultry breeders and hatcheries, eliminating as it does the vast amount of labour used in the testing of eggs by the light method, and loss through the incubation of infertile eggs, the subsequent wastage of an over-plus hatch of unwanted cockerels, and also the further disappointment, apart from the waste of precious feeding stuffs, of having numbers of chicks die upon one's hands for no apparent reason. It would also completely obviate the employment of expensive chick-sexers: a practice which is most strongly to be deprecated, owing to the risk of injury to the delicate membranes of a newly-hatched chick.

My conclusions are these: that a bobbin made from some article in constant personal contact with the operator gives far the best results; lead, of course, is at any time a poor medium, being less conductive than many other substances. When sexing eggs I usually sit facing south, and get the best results when resting both elbows on the table, and holding the pendulum in the right hand, while supporting the right wrist with the left hand. I have never tried an ivory bobbin, or, in fact, anything made from a once-animate substance, as I should imagine that the sex of the creature from which it was made might have a perversive effect upon the result.

It would seem therefore that, given the requisite and suitably-tuned bobbin, a plain wooden table, and possibly an assistant to move the eggs for you, constant and careful practice should in time bring at least a profitable measure of success..

DOWSING DISTORTED

From time to time articles appear in journals of a more or less scientific kind in which allusions to water divining or to dowsing are made. The reader who has studied the subject cannot help being struck by the inadequacy of these allusions both in nature and relevance. Generally speaking, it may be said that the more scientific the journal, the more out of date are the sources of its information. As a rule, nothing is said about recent developments in the theory and practice of dowsing and there is a lamentable ignorance of the results which have been achieved by the use of this human faculty during the past few years.

Two articles have appeared recently which support these remarks, one by Professor P. G. H. Boswell, F.R.S., entitled "Water Supply," in *The Advancement of Science*," Vol. III., No. 10, the official publication of the British Association, and the other in the *World Digest*, No. 74, for June, 1945, by Professor A. M. Low, entitled "It's not easy to Explain," an abridgement of an article which appeared in *Prediction*.

The first of these articles is of considerable interest so far as the geological aspect of its subject is concerned, though nothing is said about the part played by faults and deep fissures in the occurrence of subterranean water, but when the author deals with "Water Finding" the reader who knows something of dowsing cannot fail to be disappointed.

Professor Boswell makes the usual remark that water diviners have never yet justified their claims in any tests under scientific control with their willing co-operation.

A fallacy underlines a statement of this kind, for it implies that the general experience of centuries is of no value in comparison with a few experiments which have been carried out, possibly under unfavourable conditions, by unsuitable investigators with the co-operation of dowsers who lack the necessary skill.

The practice of dowsing being mainly a radio-physical process of great delicacy, demands that there should be no objects of a disturbing nature, such as H.T. cables, iron railings, power stations, large masses of metal, and so on in the immediate neighbourhood. There should not be a large crowd of noisy observers, and an atmosphere of artificiality and strain should be entirely lacking. Moreover, the weather conditions should be suitable.

The examiners should not be of a prejudiced or sceptical nature, as are so many engineers and physicists, for it is well established that the mental attitude, and hence the performance, of a dowser can be adversely affected by the presence of hostile spectators.

No profound knowledge of physics or of engineering is required

to observe whether a dowser's reactions occur at certain spots, and an unprejudiced outlook, clear powers of observation and honest intention are more important qualities in an investigation of this kind than technical knowledge.

The dowsers or dowser under test, whilst possessing the necessary skill, should not be of a type liable to be influenced by nervous mental strain.

References to dowsing often appear to imply that all dowsers are of equal skill, and that no exercise of technique is involved. Dowsing is an art, and dowsers vary in skill as do other artists.

One can safely say that if the venerable tests so often quoted had been carried out with due regard to all conditions, they would have been successful.*

Professor Boswell then proceeds to state that, apparently, for the dowser to succeed " the water must not lie too far from the surface and that it must be in motion," and that there is no case on record of a " major undertaking (for example, one requiring one m.g.d. or more) in which a dowser's services have been enlisted and proved successful."

If a depth of not more than 50 feet is intended by the expression " not far from the surface," this statement is certainly inaccurate, as innumerable cases could be quoted of water having been correctly located by dowsers at depths of over 100 feet. A few such cases, supplied by one dowser alone, are as follows :—

Wallington Farm Training College, Oxon.	307ft. ..	Not fully tested, but no reduction of R.W.L. when pumping at 3,600 g.p.h.
Domestic Laundry, Worthing	156ft. ..	1,000 g.p.h. at surface
City of Rochester, Kent..	115ft. ..	Over 7,200 g.p.h. Not further tested ; no reduction of water level by this pumping
Harefield Sanatorium, Middlesex	175ft. ..	6,000 g.p.h.
Frampton's Nurseries, near Chichester and Worthing	200ft. and 250ft. ..	4,000 g.p.h.
Northampton Brewery ..	134ft. ..	15,000 g.p.h.
Burntisland W/W, Fife ..	360ft. ..	12,000 g.p.h.
C.W.S. Factory, Shepton Mallet	160ft. ..	5,000 g.p.h.

It is true that many dowsers say that they are unable to locate still water, but this is not generally the case. It is probable that

* See letter to *The Times* of 20th June, 1934, by Major C. A. Pogson.

all dowsers could locate water not in motion if they possessed the necessary technical skill. As an example, may be quoted the artesian supply found by Captain Trinder in 1933 for a laundry at Lymington, Hants, at a depth of 398ft.*

In refutation of the statement that there is no case on record of a major undertaking in which a " dowser's services have been enlisted and proved successful," can be quoted the engagement of a dowser by the Cirencester U.D.C. in 1936, when a supply of some six million gallons per day was obtained from two boreholes, in an underground river near Baunton. It should be added that the general area to be examined was chosen by Mr. L. Richardson, a geologist, though the position and existence of this huge underground flow, believed to be the second largest in England, could not have been predicted on geological grounds, and the dowser himself gave a figure of only 15,000 g.p.h. for one of the boreholes.†

Water diviners have often been employed by Borough, Urban and Rural Councils and by Waterworks Companies in connection with their water supplies, but in the case of large projects ministerial sanction is required, and a scheme based on a dowser's opinion is not generally regarded with favour. Hence, when a dowser is employed for such schemes, the fact of the dowser's participation is usually suppressed. Major Pogson, however, quotes the case of the Dorking Waterworks, where in an augmentation project a supply of 40,000 g.p.h. was obtained in one well without headings. In other projects in which he was concerned, involving headings, greater supplies were obtained.

Professor Boswell further states that " public confidence in dowsing is hardly strengthened when it is claimed that not only water, but oil, various metals, coins, corpses and other lost objects can also be located, and that the contents of envelopes and the proportions of copper and zinc in brass can be predicted."

To this formidable list he might have added location of subterranean cavities, the tracking of animals, discrimination of sex, the diagnosis and cure of disease.

His statement seems to imply that some sort of explanation can be given for the finding of subterranean water in motion by means of dowsing but not for the accomplishment of the other acts in his list, which, by the way, are not only *claimed* to have been performed, but *have* been performed time and again.

It is true that water when it is moving throws out an additional influence, but the earliest records of dowsing in this country are associated with the location of minerals, and many dowsers are more strongly affected by minerals, especially radio-active ones, than they are by water. Insistence that a dowser's primary

* See *Water-Divining*, by Theodore Besterman, p. 138.

† *Journal of the British Society of Dowsers*, Vol. II., p. 235.

function is to locate water has no historical support.

There is good reason to suppose that the act of dowsing is mainly a physical response to radiation, and that a field of radiation is not the peculiar property of water but of every material object. That the dowsing reactions can also be caused by a subjective or psychological stimulus is an undoubted fact, but this is no more explicable at present on the basis of physics as now understood, than is clairvoyance or Dr. Rhine's psycho-kinesis.

In spite of this comprehensiveness of the dowsing faculty, is this any reason why the dowser's claim to find water should be suspect? Does a musician's ability as a performer on the piano disqualify him as a singer?

The reality of water divining, resting on the experience of centuries in Western Europe, has been accepted by most people of intelligence, including not a few distinguished scientists, for instance, Sir William Barrett and Sir Joseph Thomson, and the genuineness of the water diviner's art cannot be discredited by a few inept tests carried out by investigators who were ignorant of the art itself, and of the conditions under which it can best be practised.

The attitude of the professional scientist towards dowsing, at any rate of the old-fashioned type of scientist with his circumscribed horizon, seems to be purely negative; he appears reluctant to tackle a problem which presents so much that conflicts with the accepted ideas of modern physics, and it would often be as much as his place is worth to profess adherence to unconventional views which his colleagues and employers would probably regard as heretical.

It is therefore refreshing to find that so distinguished a physicist as Professor A. M. Low devoted ten months, some years ago, "with expense no object," to the investigation of water divining. It is, however, somewhat disappointing to learn that he came to much the same conclusions as did Sir William Barrett as long ago as 1897,* for he writes, "the movement . . . was not caused by the water, but by the dowser, who knows there is water underground and subconsciously makes the twig move because he believes it ought to do so."

Again, why this insistence on water?

It is a matter for regret that Professor Low did not carry out experiments on the reactions of a dowser towards oil and minerals—especially those which are strongly radio-active. If he had regarded the dowsing problem as primarily electro-magnetic, he might have made a valuable contribution towards the investigation of the subject.

* *Proceedings of the Society for Psychical Research*, Part XXXII., Vol. XIII.

NOTE ON A NEW RADIO-ELECTROMETER

By J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

Historical Summary

Early this year Lord Dowding (who has already addressed the Society on the subject) published in the *Sunday Chronicle* a brief account of some tests he had made upon a supposed new force in Nature, as demonstrated by a simple type of radiometer.

The form of detector used by Lord Dowding was a light paper cylinder with diametrical cross-bar (a light straw is suitable) near the upper end, balanced on an inverted glass bottle by means of a fine needle through the middle of the crossbar.

But many alternative forms of the device have been employed from time to time by various amateur and semi-scientific investigators: *e.g.*, Baraduc, Fortin, Schmid, Mager, Mansfield and the present writer; whether in an attempt to provide a mechanical detector of human bodily radiations or of the electromagnetic fields associated with flowing water. And some success has been achieved in every case, both with non-magnetic and magnetic needles (or cross-bars); with cylinders, vertical paper or metal vanes, &c.; no matter whether the detector was freely pivoted or else suspended by an unspun silk or quartz fibre.

In short, the exact form of the rotor part and its material construction appear to be relatively unimportant; though it can be shown that magnetisation, lack of exact symmetry or a tendency to unilateral heat absorption (with resultant turning forces generated (*a*) by the *local magnetic fields*, or (*b*) by *molecular gas pressures and convection currents*, or (*c*) *by electrostatic charges* between the rotor and adjoining objects) will unavoidably complicate the issue. And it is these secondary factors which the sceptical physicist naturally adduces by way of explanation of the observed rotations or deflections. Nor will he be wrong if such extra factors have not been guarded against and excluded. So that great care is needed in making and interpreting all such experiments.

The Physical Problem

Unfortunately, and as seems to be generally agreed, thermal radiation, or else light rays that may be converted into heat after absorption by material objects in or near the instrument, definitely increases the sensitivity of such radiometers to the fields and rays (electromagnetic and "dowsing" type) that are primarily in question.* Yet heat, when symmetrically applied, does not alone

* The new radio-electrometer should not be confused with Crookes' "light mill" (seen in optician's windows), which depends on unequal heating by sun or strong artificial light, of the vanes; the latter being blacked on one side and polished on the other, thus setting up molecular gas pressures in the part-evacuated globe.

cause the given deflections and rotations—as many critical tests have now satisfied us. For instance, when the natural dowsing field, which I shall term the " D field " (Lord Dowding's " *Z current* "), is very weak and faded practically to zero the most intense thermal radiation (*e.g.*, a 1,000 watts electric lamp at close range) will cause no appreciable response. Whereas, on another occasion, when there is a strong " D field," the warmth from a bottle of water a few inches distant and raised to two or three degrees F. above general air temperature, or else the light and heat from a pocket torch suffices to start up a well-marked reaction in the radiometer.

So that heat can be, and (in the special forms of radiometer now being devised for the Society) is, utilised by way of sensitivity control. But it must be uniformly applied either from above or below. And there is, perhaps, some optimum air temperature for best working, depending, probably, on the attainment of an expansion and fluidity of the air, that reduces inertia. (The writer is adopting 100° F.—approximately blood heat—for the present in his instruments). Also it is, of course, important to keep down weight and friction as far as possible in order to aid quick and free response. And the best form of rotor part (at present a smooth, light cylinder is usually used) yet remains to be determined; bearing in mind dangers of air currents and asymmetrical heating effects, which would introduce spurious reactions. But these details of construction and manipulation will be reported later in a special publication.

It is, further, important to note that excellent " dowsing " and " radiesthetic " responses can be obtained with these instruments at uniformly cool (sub-freezing temperatures not yet tested) conditions of air, instrument and surroundings when all disturbing air currents, however subtle, have been eliminated (tested by smoke and gossamer threads), *provided only that the " D field " is sufficiently strong at the given time and place.* Though one of our collaborators believes he has shown that the electromagnetic fields in question actually affect the whole body of air as well as the solid parts, creating vortical motions such as are already admitted to occur in both the Earth's atmosphere (terrestrial cyclones) and in the Sun's chromosphere (sunspot vortices)—which are evidently related to magnetic fields in terms of positive or negative rotation.

Professor A. M. Low and others immediately criticised Lord Dowding's results on the foregoing basis; for the age-old contention has been that the rotation of such delicately balanced devices is due to either draughts or slight thermal and air convection currents. These extremely sensitive and beautifully simple *radiometers* have, therefore, continued for at least a hundred years to be regarded as merely amusing toys for children and for childish adults, addicted to rather odd " parlour tricks." Even

the more scientific efforts of the dowsing and " animal magnetism " investigators (see above) met with no final success.

But what Lord Dowding has shown recently, what Baraduc and others found many years ago, what Fortin, Mager, &c., demonstrated early in this century, and what I, too, satisfied myself about in 1930-38 was that :—

(*a*) certain rays from the human body (*e.g.*, the two hands) *that appear to be distinct from heat rays* are capable of deflecting non-magnetic needles and rotating paper cylinders, vanes, &c., at a distance of a few inches ; *though not equally for different persons at a given time and place, nor for the same person at different times and places* (all other things being equal) ;

(*b*) certain penetrating rays or fields of force not of biological origin, apparently, but constituting a cosmic, geophysical or else " dowsing " field (Lord Dowding's " *Z current* " and my so-called " *D* " *field*) might also make the needle deflect or the radiometer rotate spontaneously—*sometimes in one sense, sometimes in reverse and with extremely variable intensity at different times and places.*

Everyone who seriously examines the problem soon comes to the conclusion that, though the motions tend to be stronger in fine, sunny weather or in the presence of heat radiation ; yet *heat rays* alone cannot possibly be the prime cause of the reactions ; since (1) strong motions can often be obtained, in perfectly screened and draughtless conditions, in a cool-thermostatic chamber when the " Z current " or " D field " is strong, and (2) intense thermal radiation and/or considerable air agitation produces no movement at all on other occasions.

It was soon evident to us, therefore, that, having taken the necessary precautions against thermal effects and air disturbances,* *some other potent factor of a very variable kind still remained as the ultimate motor agency. And that agency could, clearly, work in either a clockwise* ("*positive* ") *or else anti-clockwise* (" *negative* ") *sense, at different times and places ;* even when all thermal and mechanical factors were balanced and symmetrical.

Here, then, was an extremely intriguing problem of fundamental physical and, perhaps, physiological import, and seemingly related to Dowsing and Radiesthesia, that cried aloud for final solution. And though my tests in the pre-war years, with discussions of the results with G. G. Blake, M.I.E.E., Dr. D. West (an authority on molecular gas pressures, &c.) and others had left the issue in doubt, I felt that Lord Dowding, backed up by the opinion of our President, Colonel A. H. Bell, was certainly right in assuming a connection with Dowsing and Radiesthesia. So that the

* *e.g.*, Employing a cylindrical celluloid, cellophane, glass, wooden or metal screening box (details omitted here) and working in a cool sealed chamber —in a cellar, say, with peep-hole in the wall or door.

problem was, once again, attacked with a will earlier this year, bringing to bear the whole of our more recent knowledge of dowsing fields and rays, and the latest instruments and radiological information. The outcome has, I am glad to report, been eminently successful, and three new instruments are well on their way to being perfected for practical use by physiologists and radiesthetists; one, for field dowsing on flowing water; the second, for measurement of general "D field" (dowsing ray) intensity and weather forecasting; the third for physiological and general laboratory use.

General Findings

Details are too many and technical for publication in this short paper; but the more important discoveries and conclusions which have, so far, emerged (as I see them) from the total work by early pioneers, Lord Dowding, A. H. Reeves and the present writer seem to be as follows:—

1. The motor force acting on such delicate radiometers is one and the same as that underlying all ordinary (strictly physical) dowsing and radiesthetic phenomena; whether it be of biophysical, telluric (geophysical) or cosmic origin.
2. The force is of an *electromagnetic and "etheric" wave type of extreme penetration power*—passing through, or else conducted by, thick walls, metals, rocks, water, &c., with only slight retardation or absorption.*

   Frequency is, evidently, extremely high and remains to be determined.
3. The force is *remarkably variable in intensity* at a given place and under local electromagnetic conditions: the variations clearly being related to meteorological (weather) and, perhaps, also geomagnetic and geoelectric states.

   It is strongest and most consistent in fine, clear, settled and magnetically "quiet" conditions, but fades in strength and tends to *reverse in polar phase* (plus or minus direction of polarisation and turning action) when stormy weather is approaching or overhead. . . . Convincing graphs of these changes are available for inspection.
4. No amount of thermal, electromagnetic (*e.g.*, Hertzian waves or electronic oscillations) or—on the physiological side—neuromuscular excitation will intensify the effects appreciably if and when the natural "*D field*" has faded badly. But instrumental sensitivity can be markedly increased by such artificial "boosting," provided the "*D field*" still exists, though in lesser degree.

* See below for damping and retarding effects of screens and covers at critical distances, that Lord Dowding thought prevented penetration.

5. The polarity of the natural geophysical field, as found associated with running water and also static objectives,* may reverse either spontaneously (time of day and position of Sun is the prime factor, apparently) or as a result of artificial *magnetic* interference. Other things being equal, rotation tends to be *clockwise* on the so-called " R bands " of the dowsing field, and *anti-clockwise* at the half-wavelengths positions (" N Bands "), where the field is acting in a different direction and sense.

And polarity and direction of rotation of radiometer may be artificially regulated by magnetic means, apparently.

6. So far as my tests have progressed, the radiometer appears to demonstrate that the following are equivalents in the dowsing and radiesthetic sense : *i.e.*, give similar radiometer rotations or " biometer " deflections :—

Clockwise motion (+)	(−) *Anti-Clockwise motion*
− electric pole	+ electric pole
N magnetic pole	S magnetic pole
L hand	R hand
Dip of rod	Rise of rod

But the responses seem to be reversed in *left-handers* (as maintained by Reichenbach, Abrams, Eeman, &c.), and also as a result of certain alterations in the instrumental (electromagnetic) conditions of *earthing* or *insulation* of all components or complete *screening* of the detector. (See below). So that care must be exercised in judging polarities, including male or female *sex* polarity —which can also give inverted effects with rod and pendulum, we find, under certain electromagnetic conditions. (Captain W. H. Trinder has checked this effect).

7. *Reflections and disturbances* of the steady, fine weather "D field" (Lord Dowding's " Z current ") are created by neighbouring solid objects of any size and kind. And the bigger the surface area (rather than mass or volume) and the higher the electric conductivity (? or is it inductivity) the bigger these effects. Hence, experiments

* See *The Physics of the Divining Rod* (Bell & Sons, 1939) for a general outline of certain dowsing fields, R. Bands, &c.

should be done in quite open surroundings (an empty room or open field) for safe results.

8. *Moving objects* create radiometer responses as their R bands or rings cut the detector, just as in the case of the rod, pendulum and ionisation counter; but the effects are temporary and relatively small.

   Running water and *electric currents* in linear conductors, however, create well-marked responses. And when water is suddenly allowed to flow in an adjoining pipe or open course, there is an almost immediate motion of the (previously stationary) radiometer, in the form of several very slow oscillations of + — nature, having an average periodicity of some 50-70 secs. and anything up to 360° + — amplitude.

   Response to human body radiation is very similar and, in general, there tends to be an initial *time lag* of 5-10 secs. But when the field is very strong (a good day) reaction is less sluggish and *continuous rotation* or else *serial periodic pulsations* may result. Otherwise, there seems to be simply a " make and break " response, and graphing shows *a very damped oscillation.*

9. These reactions may have various origins, so that motion is no guarantee of the presence or immediate proximity of, say, a running stream. On a fine day the human body (especially an emotional and " vital " subject) will cause deflections or rotations at a few feet distance—up to 10 or 15 feet. we find; and the direction of rotation will, typically, be reversed if the subject stands, first, north (anti-clockwise rotation) and then south (clockwise rotation) with weakened or + — oscillating motion when he is to east or west of the radiometer.

   In short, *magnetic orientation* is important, whether for the human body or other sources and reflectors of the " D " rays. And the N/S and E/W relationship can become interposed.

10. For delicate tests, where initial immobility is imperative, I find that the natural motions, due to " D field," " Z current," &c., can be neutralised by means of suitably shaped, orientated and distanced screens or bias objects. Control magnets are also helpful. And the radiometer should be totally enclosed in a metal or other casing. But the nature and exact *dimensions* of the latter are important. If the dimensions are wrong, then some sort of *electromagnetic damping* seems to occur, and sensitivity and response are greatly reduced—even to zero. As this occurs when working cold and with energy transmitted from a distance (see below), it cannot be attributed to damping of air currents. Besides, the *critical distances*

(*e.g.*, 6-8 cms., 24-32 cms. and 96-128 cms.) appear to be the same as had already been obtained by us with the ionisation counter and other methods of enquiry, including the rod and pundulum. Automatic tape records of these were previously collected, showing harmonic wave effects.

11. The energy output from the human body is well shown by a special form of the new radiometer which I have lately devised and demonstrated to a number of electrical engineers, physicists, physiologists and others. And numerous subjects have already been tested on different occasions for reactions.

In general, the claims of medical radiesthetists are vindicated, as follows :—

(*a*) Energy output of the whole body or any particular limb or organ evidently varies with health and individual vitality. Fatigue and boredom also reduce it proportionately. But *weather* variations also occur.

(*b*) The energy in question can be transmitted along (guided or conducted by) metal wires and, less strongly, by wooden rods, &c., in a kind of " wired wireless " manner.

(*c*) Condenser gaps (air or insulating breaks) in such leads do not stop the radiation, though they weaken it. Nor do they change the + − polarity of the field.

(*d*) Opposite rotations result (for an initially well-balanced field) when energy from R and L hands or top and bottom of spine, &c., is conveyed to the radiometer, through copper wires ; as for energy from + and − electric, or N and S magnetic poles.

(*e*) Output of energy is normally greatest when the subject is in a *relaxed* and " sympathetic " state, and is much reduced by mental or muscular tension.

(*f*) Emotion causes momentary increased output of energy.*

(*g*) Muscle tension creates an inverse reaction (also a *radio* output—no measurable D.C. electric current flows in the wires) that is well shown by strong fit subjects, and *which suggests internal short-circuiting of the previously externalised* (*excess nervous*) *energy when the muscles come into play.*

(*h*) Output of energy varies when certain vital nerve centres are electrically connected or else relayed to those of another subject or subjects in the general manner determined by L. E. Eeman and others, working radiesthetically.

* Corresponding to Cazzamalli's " psycho-radiant reflexes " and concomitant with the well-known (internal) " psycho-galvanic reflexes."

Conclusion

The foregoing summary of principal results of this research up to the time of writing is believed to give a tolerably reliable picture of the general situation and main phenomena. But it is, of course, still somewhat preliminary and tentative. Some fifteen hundred hours of work this year alone have, however, been devoted to the problem by the present writer; without counting all the time spent by Lord Dowding and Mr. A. H. Reeves (an expert radio and electronic engineer, collaborating in this and other enquiries), both of whom have kindly corresponded and discussed matters as the work progressed. And Mr. Reeves and his friends have several times visited the writer's laboratory to witness and confirm some of the main effects.

It is, unfortunately, true that, although these phenomena appear to be perfectly objective and repeatable, yet they necessitate the utmost caution and full radiological knowledge for their proper apprehension. So many factors enter into the picture, and the "D field" itself is so variable in both intensity and general polarisation, that simplicity is impossible.

This is exactly what T. B. Franklin and I found in the case of the previous seven or eight detection methods for streams, &c., that we successively applied: viz.: physiological, radio, magnetic, ionisation and electrometer, earth currents, photographic and spihthariscopic tests. Always the ubiquitous "polar reversals" and intensity variations—*shown concurrently by all instruments, and undoubtedly real and objective.* Nevertheless, the new instrument does seem more direct and more promising, as well as being more sensitive than anything else heretofore.

SOURCES OF WATER

By F. DANVERS POWER, F.G.S.

Dowsing is all very well for finding an underground water supply in quantity, for which more or less excavation has to be done in order to obtain it: but there are times when the life of man depends on obtaining a small quantity of fresh water quickly, since he cannot live many days without it.

Where, when, and how such water is to be obtained depends on the class of country, climate and season. In many cases one cannot do better than follow the example of natives of the country in which one happens to be, who have learnt by personal experience, or by the experience of others which has been handed down from generation to generation. Although the details may vary in different countries, or even districts of the same country, the principles remain the same. The following are some of the means used for obtaining small quantities of

water in Australia and the Pacific Islands: and here it might be well to mention that clouds and rain may at times be observed all round a coral island, yet not a drop falls on the island itself. This is brought about by the heat of the rock causing the rarefied air above it to rise, which has the effect of driving away the clouds immediately overhead.

The subject may be divided into mineral, vegetable, and animal, according to the means employed in obtaining the water.

Mineral

All rocks are broken up into blocks by three systems of joints, more or less at right angles to one another, and these form natural water channels in districts where it rains. The water naturally drains into the main joints, and if dammed back by an impervious rock, such as an igneous dyke, it is likely to rise to the surface at a lower level in a series of springs which indicate their presence by the greener or more profuse vegetation along the line of contact.

In hot climates such as North Queensland or the Northern Territory, one can pass over dry river beds where water only flows on the surface during the wet season. Evaporation being great, the gravel serves as a protection from the sun. Water tends to flow in a straight line towards the sea, but on account of various obstructions, it is constantly being diverted. If a cliff is in the way, the water in altering its course scoops out a hole at its foot, and this being the deepest part, is naturally the place to look for water. It is no use seeking water on the opposite side of the river as that is shallow, and consists of debris washed on to that bank. If one intends to camp near such a place for any length of time, a double circle of stakes may be driven into the ground, one inside the other, about nine or twelve inches apart, the material between taken out and the space filled with tufts of grass to act as a filter, besides helping to hold back the sand. The gravel from the centre is now excavated till water is reached. At first this will be muddy and will have to be baled out till the water becomes clear. The mouth of the well should be covered over when not in use to prevent pollution by beasts.

Native wells are generally dug out by natives under the shade of bushes. They are really soaks, and are dug inwards to protect the water from evaporation and wild animals. Water from water holes where cattle drink, and from native wells, should be boiled for ten minutes before being used.

Along the coast, where the soil is sandy or otherwise porous, as on coral islands, water falling on the land tends to make for the ocean; but there is a zone where tidal waters and land waters meet, which cause a backward and forward motion, and the water

is brackish. A little further inland the water will be fresh. This can be tapped with a spear pump, but if near dwellings, it is liable to become contaminated with drainage. As this article has to do with the finding of emergency water drinking, no remarks will be made concerning the purification of contaminated water, as presumably the means will not be available. It is well to know that if fresh water is limited, as is sometimes the case when adrift at sea, that it may be augmented by the addition of one-third sea water without being harmful to the human system.

Vegetables

There are two kinds of what may be called water trees: (1) Those which act as reservoirs; (2) those which yield sap, generally called water in this sense.

In the first case, the branches of eucalyptus trees are at such an angle as to lead any rain water to the trunk, where it will sollect at the point of junction or in the trunk if hollow. An aborigine desiring a drink will sound the tree, and when he finds the level of the water, he cuts a small hole, drinks what he requires, and stops the hole up again with clay, so that anyone coming after him can also obtain a drink. A white man too often does not trouble to find the level of the water, but just cuts into the tree at the most convenient point for him, takes what he wants temporarily, and alows the rest to go to waste. When the trunk of the mallee oak attains the diameter of about six inches, it becomes pipey, and rain water collects in it. An aborigine ties a bunch of dry grass to the end of a spear and dips it into the water, and on withdrawing it squeezes the liquid out into a vessel and repeats the operation till he has secured sufficient for his need. The trunk of the bottle tree, found in the northern parts of Australia, also serves as a reservoir for water. In coconut country both food and drink can be obtained from the green nut. Kanakas catch rain water that falls on the smooth bark of inclined coconut trees by tying a coconut leaf on to the trunk in such a way that the leaflets guide the water to the stem of the leaf, from which it drips into a vessel. Dew may be collected on some fabric by laying it out in the open overnight and wringing it out in the morning; or by flapping it about among bushes on which dew has fallen. If in grass country, grass or some fabric tied round the ankles will collect dew when walking through grass wet with dew.

Among water-yielding trees may be mentioned mulga, black or flodded box, wattles (acacias), currajong, spotted gum, needle bush, and liana vines found in tropical countries. The greatest flow of water is when the sap is up. Sometimes a ring is cut downward in the bark of a tree to form a trench in which the sap collects. Select healthy-looking trees with plenty of leaves.

The sap is more plentiful in trees growing in gullies than those on ridges. It is from the horizontal roots near the surface that sap is obtained. If their position is not obvious, they can be traced by prodding the ground with a pointed stick. The root is severed about six feet from the tree, so as not to injure it. The severed portion of the root is pulled up and cut into suitable lengths. If to be used at once, they may be eighteen inches long; several are then upended in a vessel and the sap allowed to drain out; the outer bark, which is dirty, is first peeled off. If the root is to be carried for future use it is cut into lengths of five or six feet and the ends plastered with clay to prevent the sap from leaking out. Aborigines set alight to the needle bush to drive the sap into the roots, the fire is then extinguished, the roots cut up and drained. Moisture can also be obtained from the thick fleshy leaves, such as those of pigface and the ice plant, also from the stems of rock lilies.

Animals

Some birds, beasts, and insects never travel far from water, while others travel long distances, so one should learn the habits of such creatures. As a rule, herbiferous birds, except parrots and cockatoos, are good water finders, while flesh-eating and insect-eating birds are not. Finches are reliable. Note the direction in which such birds fly in the evening, and that of water birds, such as ducks and swans at any time. Note how the tracks of wild animals converge towards water. Cattle tracks indicate water in quantity. Yabbies (fresh water crayfish about the size of prawns) excavate holes in swampy country which they line with clay. These holes contain cool fresh water which can be sucked up through a hollow grass stem. In some places where waterholes dry up periodically, frogs fill themselves up with water and then burrow into the mud, where they remain, if not disturbed, till rain comes again. Aborigines can tell where the frogs are by the marks they leave. The frogs are dug out and relieved of their water by squeezing it into the mouth. A limited amount of liquid can be obtained from fish and mollusca by cutting them up and squeezing it out.

Some of the liquids mentioned above may not be very appetizing, but when you are doing a perish you do not think of that; besides, the mouth being dry, taste is not the same as under ordinary circumstances.

Insects, such as bees and hornets, both require water and are not found very far from it.

PART TWO

VITAMINS AND PENDULUM DIAGNOSIS

BY GLADYS BARRACLOUGH

One hears the word VITAMINS from every quarter to-day. The word alone is highly suggestive of sparkling health and is a potent advertising factor which has caught the public fancy. The popular notion seems to be the greater the supply the nearer to perfect health. That there is a reverse argument is borne out by my experience and an admirable treatise on Vitamins compiled by three doctors, the result of three years research, but which I have only recently purchased.

Literature on Vitamins is full of vitamin deficiencies and their great importance; the flooding of the open market with these products is, however, fraught with danger. Little information is forthcoming of the reverse side of the picture, that of HYPERVITAMINOSIS or VITAMIN EXCESS. My work has convinced me that the vitamin principle in nature is the natural supply system for glandular balance in all animal life (humans included).

In the artificial state we call civilization, food supplies are regulated commercially, and marketing convenience takes precedence over health considerations. Food preservatives and precooked foods give us the cardboard carton and the tin opener—both so very convenient in the stress of modern life—and rob many of their full complement of vitamin supply, nature's decree gives vitamins in balanced measure in uncooked fruits and vegetables, thereby ensuring a balanced glandular system.

The isolating of the vitamin principles is a triumph of modern chemistry, but the presentation of them in the open market has, to my mind, many dangers that will show fully only in later generations. Left entirely to nature, Hypervitaminosis hardly ever occurs, but when as to-day the public are so easily swayed by the persuasion of advertised products, overdosing is possible to all who crave health without possessing the leaven of wisdom.

Vitamins and their Clinical Applications, by Prof. Dr. W. Stepp, Dr. Kühnau and Dr. H. Schroeder (published in America), the book previously mentioned, stresses very clearly the dangers attendant on Hypervitaminosis—and the Vitamin Antagonisms that are so little known. The book was acquired by me *after* dealing with the cases I am now presenting, and gives, I hope, further evidence of the value of pendulum diagnosis, especially when the main factors of a pathological case are by no means clear, and there is no information on the subject available.

CASE I.—M.K., A GIRL OF 5 YEARS.

Symptoms.—Gradual loss of weight, pallor, blue rings round eyes. Some digestive trouble. Fretful, dissatisfied, continuously crying.

Various treatments had been tried for about six weeks, with no improvement. I was asked to see what I could find. On my scale the indications were :—

Skin + 10
Para sympathetic system — 10
Vit B normal
Vit A —10
Vit C — 10
Vit D + 25

Hypervitaminosis D was the outstanding factor in the whole chart, and increased the conditions in skin and parasympathetic when tried against them—showing excess.

My problem was to balance this condition as quickly as possible, so I made enquiries of three homœopathic chemists as to an antidote for vitamin D excess. They could give me no help, not even a clue. I asked various doctor friends : they also had no suggestions. So I set to work to find it. I tried a large number of remedies, about 30, with no result. By post that day I received a set of potencies made from Carrot Root made expressly for me for some experiments I was contemplating. These I tried. The pendulum swung to the normal line immediately. I knew Carrot Root contained Carotene, Pro vitamin A, but whatever else it contained Carrot Root was clearly indicated. I gave 3x, 3 tablets after meals for one week, with notable results.

The little patient's weight went up 5oz. for the first time in six weeks, and the fretfulness ceased. At the end of the second week all symptoms, including the blue rings under the eyes, cleared.

During this time I made enquiries of the mother if M.K. had been given anything special either as medicine or food. I was told she had previously been given the commercial product HALIBORANGE (Halibut liver oil and orange juice) over a period of about three months, ½-teaspoon a day. I did not at the time regard Haliborange with suspicion, but as the case was going forward well left it at that.

A month or two later I purchased the book *Vitamins and their Clinical Applications.* The chapter on vitamin antagonisms confirmed my findings in the case of M.K. The various vitamins are grouped with opposite principles and when given *simultaneously* neutralise each other completely. Particularly mentioned was an outbreak of scurvy amongst a group of children "whose mothers, desiring to make the vitamin intake most generous, administered a mixture of cod liver oil and orange juice." Scurvy is a disease produced by a serious deficiency of Vitamin C. The

Vitamins A and C represent opposite principles and when simultaneously administered neutralise each other completely.

Was this the reason, in the case of M.K., of the excess of Vitamin D, which alone was not antagonised in that wonderfully misguided mixture Haliborange, in which Vitamins A and C cancelled each other out. Her symptoms were very similar to those of Scurvy, and one would expect Vitamin C deficiency to be the most evident factor, not Vitamin D excess. Yet the deficiency of A and C were by radiesthesia by no means so marked as the excess of D. Whatever the true facts, Carrot Root in potency adjusted the trouble. I await with some eagerness a new case with this problem recurring.

CASE II.

L.D. wrote could I solve a problem for him, a most annoying occurrence. During the war he only had one glass of whisky a day, and that after dinner—about 20 minutes later he itched and tickled all over—why was this? Could I stop it?

Well, of course, I had no idea till I tried.

I found him in very good health generally, though the small intestines were +15 and the skin +30, measured from a blood spot taken at the time of the irritation, after dinner. It was only when I came to test the vitamins that I found Hypervitaminosis E. As he had given me no clue to his irritating condition, I phoned to find if he was aware he was overstocked with Vitamin E. He laughed and said, "Trust you to find it." I have a daughter and want an heir, a specialist advised taking Vitamin E for three months. He asked if he should merely stop the Vitamin E, but I wanted a shot at neutralising the trouble in the shortest time instead of waiting for him to eliminate the excess gradually. So another search was on. What would balance excess E? I hadn't the least idea. I tried many things and, of course, all the vitamins, but there was no response. Eventually I got pendulum action for CARBO VEGETABILIS (vegetable charcoal). On looking up the symptoms listed homœopathically for this remedy, I found "itching worse in evening when warm or in bed." It was quite successful and took five days to adjust the excess, and on the sixth day he took his glass of whisky in comfort—and had no trouble since.

CASE III.

A lady—a beauty—complained of the skin of face, eyes and neck being dry, rough, and itching slightly, slight redness, some swelling round eyes, particularly bagging under the eyes, which offended her very much. The whites of the eyes slightly yellow.

She was highly nervous and fidgety, six months previously had had a miscarriage. After recovering from this had been recommended to take BPLEX (combined Vitamin B_1 and B_2) for some time.

She had carried on with Bplex for five months and had stopped merely because she was tired of taking it. The skin condition had gradually developed and as far as she could remember had started about three months previously. She had tried various creams and salves to no effect. She did not connect Bplex with her condition, and was surprised when I suggested it. By blood spot test the only disturbance was in small intestines and skin. I immediately tested Bplex against them; it was strongly contra indicated. In this case I had *Vitamins and their Clinical Applications* for reference. In the chapter on vitamin antagonism I read: "Furthermore, it is worthy of note that the toxic action of Vitamin D may be abolished by Vitamin B complex."

Therefore I tried reversing it, and gave Vitamin D to the patient to neutralise the overdosage of Bplex.

She took this for seven days after each meal. She then sent another blood spot, saying the condition had improved, the irritation was decidedly less, but the eyes were still slightly tinged with yellow and the bagginess under the eyes remained.

I gave Vitamin D for 14 more days. She had no other medicine. At the end of that time the lady regained her full complement of beauty.

To return to Case I., in which Carrot dealt with the excess of Vitamin D, and where pendulum action was entirely relied on for finding the antidote. I have since taken trouble to find the vitamins contained in Carrot:—

Carrot	Carotene (Pro Vit. A)—1,500 units
	Vit B_1—60 units
	Vit B_2—Little or none
	Vit D—Little or none

Therefore there are two possible antidotes to Vitamin D excess in Carrot, Vitamin A and Vitamin B. This is confirmed in *Vitamins and their Clinical Applications*.

It seems Vitamin B and Vitamin D strongly antagonise each other, as was proved by Case III.

To sum up in Cases I. and II., the treatment was found by radiesthesia alone, without advice from any quarter.

Case III. was cured by reference to vitamin research books. If anyone is interested in a well-written concise book on vitamins, suitable for the layman for everyday reference, I strongly recommend *Food Health and Vitamins*, by R. H. Plummer and V. G. Plummer. Price 7/6.

LETTER TO THE EDITOR

P.O. Box 1,

WARDEN, O.F.S.

22nd May, 1945.

My dear Colonel,

In Journal No. 24, under the heading of " An Experience and a Difficulty," Miss E. M. Penrose described on pages 357-8 how she carried out Mr. W. W. Hawker's test of diverting a stream by tapping very sharply on the stream band with a stone. She suggested that it would be advisable to test whether the stream was diverted or not by experimenting over a stream issuing from a bank or cliff.

I had occasion to test this recently on a small stream issuing from under a ledge. This stream flows into a bowl in the rock and is piped from there to a reservoir situated about ten yards away. Over the ledge the stream is about three feet deep. I struck the streamband on the ledge sharply with a rock and found with a black rod with white binding that the surface marking of the stream had moved about four feet to the left of the direction of flow. There was no apparent difference in the water which still issued from the same place. To the eye there appeared to be no difference in velocity or yield.

In addition it can be added that with the rods locating the Maby field and my own fields there was absolutely no change in the stream band at all. I suggest that what moved away was the emanation of the water, but that the radiation remained unaffected.

Yours faithfully,

R. ERLANK

REVIEWS

PRODIGI DEL PENDOLO

By Sac. Alcaste Grandiore—Casa Editrice Cultura Religiosa Popolare, Viterbo, 1940; 50 Lire.

A simple and well-illustrated book for the beginner, covering all aspects of the use of pendulums from the simplest experiments to the tracing of people by maps, the diagnosing of diseases, &c. The great advantage for the amateur is that every chapter is accompanied by lucid explanatory diagrams, the reviewer—in spite of a limited knowledge of Italian—finding it far easier to understand than a recent work on these lines reviewed in the *Journal*.

The author relies mainly on French sources.

LA VERGA GIRANTE, UNA NUOVA FORMA DI ELETTRICITA; STUDI ED ESPERIENZE

By Can. Giuseppe Ferrari—same publishers as above, 2nd Edition, 1937; 42 Lire.

The author, writing from the Italian viewpoint, devotes the first part to a history of the dowser's rod, starting with Brembato's *La Mineralogia* of 1663, then *Della Rabdomanzia ossia Elettrometrica animale* by Amoretti, published at Milan in 1808; Cevreul's *Bacchetta divinatoria* of 1854 (presumably translated from the French); D. L. Ferrari's *Contributo allo studio delle correnti elletroorganiche e di minima quantita e tensione* 1897; to Pesce's *La Bacchetta che fu divinatoria* of about the same date; and Mariani's *Ricercadelle acque sotterranee* of 1923.

The second and third parts describe a series of experiments with divining rods and various types of electrical measuring equipment, which the author maintains as sufficient to prove the existence of minimal electric currents revealed by the rod. The equipment required is simple and fairly easy to obtain, so that the experiments should be within the reach of anybody.

E.S.

WATER DIVINING

By S. N. Pike, M.B.E., D.F.C.; Research Publications, 5/-.

This book of inconvenient crown quarto size, and of gaudy exterior, claims to be one of practical instruction, but the really instructive part could easily be accommodated in four out of its 40 pages.

Unlike most modern dowsers, the author prefers a twig measuring some 20 inches from top to bottom, and does not appreciate the value of a light rod of a permanent kind, which causes the minimum of fatigue and possesses nearly consistent flexibility. The well-known rule for finding depth is given, but nothing is said about estimating quantity.

The author has found that dowsing can be learnt more readily if copper wire is wound round the branches in a certain way. He does not say why.

Like most dowsers, the author considers his own manner of working superior to all others.

A.H.B.

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Fitzherbert, Mrs.
North, F.

TRANSVAAL

Flynn, T.

ORANGE FREE STATE

Erlank, R.

RHODESIA

Keightley, J. H.
Sutton, A. T. C.
Watson, G. C.

KENYA

Ganz, Dr. E.
Sprott, F. H.

UNITED STATES

Blanchard, R. A.
Bobadilla, L.
Carrel, M.
Cowley, Dr. Flora L.
Erdman, Mrs.
Frood, Miss D.
Gouthro, F. H.
Muller, Miss E.
Palen, L. S.
Tomlinson, F. L.
Wigelsworth, Dr. J. W.

ARGENTINE

Boyer, Mrs.
King, V. A.
King, W. D. V. O.

EGYPT

Capes, J. L.
Chapman, P.
Pearse, A. S.
Sykes, E.

MEXICO

Leuze, A.

EIRE

Bennett, J. H.
Gardner, J.
Kelly, T. J.
Lefroy, Lieut.-Colonel H. P. T.
Lefroy, Mrs.
O'Reilly, H.
Pakenham Mahon, S. Hales

FRANCE

Arago, F.

BRITISH SOCIETY OF DOWSERS

Financial Statement: Year ended 30th June, 1945.

RECEIPTS.

1943-44. £ s. d.		£ s. d.	£ s. d.
	Brought in—		
	Cash at Bank ..	107 14 8	
	Defence Bonds ..	220 0 0	
266 1 1			327 14 8
134 18 4	Annual Subscriptions		178 4 7
38 17 0	Life Ditto		109 15 0
10 6	Entrance Fees		15 4 0
6 19 10	Sales of *Journal*		5 13 2
1 2 0	Sales of Badges		13 3
3 2 0	Donations		1 7 0
6 12 0	Interest on Defence Bonds ..		7 9 7
£458 2 9			£646 1 3

PAYMENTS.

1943-44. £ s. d.		£ s. d.	£ s. d.
21 7 2	Postages and Cheque Books ..		31 9 2
81 1 1	Printing of *Journal*		93 7 7
21 0 4	Printing and Stationery		7 7 0
3 17 6	Meetings		13 15 0
—	Bank Charge		1 6
3 2 0	Donations		—
	Balance, 30th June, 1945—		
	Cash in hand and at Bank	80 1 0	
	Defence Bonds ..	420 0 0	
327 14 8			500 1 0
£458 2 9			£646 1 3

H. M. EDWARDS, *Hon. Treasurer.*

I have examined the above Receipts and Payments Account with the Books and Vouchers and certify it to be in accordance therewith.

A. CECIL STOUGHTON.

28th August, 1945.

CHARLES CLARKE (HAYWARDS HEATH) LTD.,
PRINTERS.